

Claims

1. A control valve for a fluid circulation circuit, comprising a body (2) having a cylindrical lateral wall (4) defining a cylindrical housing (10), at least two tubes (8, 50-62) through which the fluid can enter or leave the body (2), a rotary adjustment device (14, 80) mounted to rotate about an axis (XX) in the cylindrical housing (10) of the body (2), this rotary device (14, 80) being able to assume various angular positions in order to control the circulation of the fluid between the tubes, characterized in that all the tubes open into the cylindrical lateral wall (4).
2. The valve as claimed in claim 1, characterized in that the tubes are arranged radially with respect to the cylindrical wall (4).
3. The valve as claimed in either of claims 1 and 2, characterized in that the tubes are distributed over a single level.
4. The valve as claimed in either of claims 1 and 2, characterized in that the tubes are distributed over more than one level (160, 162).
5. The valve as claimed in one of claims 1 to 4, characterized in that the rotary adjustment device (14, 80) has pockets (26, 84, 86, 88) which are able to place two or more than two tubes in communication with one another.
6. The valve as claimed in one of claims 1 to 5, characterized in that it comprises a sealing ring (30, 100) arranged between the cylindrical lateral wall (4) of the body and the rotary device (14, 80).
7. The valve as claimed in claim 6, characterized in that the rotary device (14, 80) has a convex rounded

shape and in that the sealing ring (30, 100) has a concave rounded shape which is complementary with the shape of the rotary device (14, 80).

- 5 8. The valve as claimed in claim 6 or 7, characterized in that the sealing ring (30, 100) has a stop means (36) which allows it to be rotationally immobilized with respect to the body (2).
- 10 9. The valve as claimed in claim 8, characterized in that the stop means consists of a protuberance (36) which fits into a corresponding housing in the body (2).
- 15 10. The valve as claimed in one of claims 1 to 9, characterized in that a seal (112), in particular an O-ring seal, is provided around at least one pocket of the rotary device (14, 80) in order to isolate the circuits from one another.
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11. The valve as claimed in one of claims 1 to 10, characterized in that it has seven tubes (50, 52, 54, 56, 58, 60 and 62) distributed over two levels (160, 162).
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12. The valve as claimed in claim 11, characterized in that one of the levels (160) has four tubes (50, 52, 54, 56), while the other level (162) has three tubes (58, 60, 62).
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13. The valve as claimed in either of claims 11 and 12, characterized in that the rotary device (80) has three pockets (84, 86, 88).
- 35 14. The valve as claimed in one of claims 11 to 13, characterized in that the rotary device (80) additionally has a through duct (90).
15. A fluid circuit, characterized in that it

comprises a control valve as claimed in one of claims 1 to 14, the tubes of which are connected to various branches of this circuit.

- 5 16. The circuit as claimed in claim 15, characterized in that it is produced in the form of a high-temperature cooling circuit (160) for a motor vehicle engine (121), comprising a high-temperature pump (126), a bypass line (134) and a heating line (136) containing
10 a unit heater (138), and a low-temperature cooling circuit (122) comprising a low-temperature pump (122), a heat-exchange module consisting of a high-temperature heat-exchange section (144) permanently integrated with the high-temperature cooling circuit (120), of a low-
15 temperature heat-exchange section (142) permanently integrated with the low-temperature cooling circuit (122), and of an assignable section (146) which can be integrated either with the high-temperature heat-exchange circuit (120) or with the low-temperature
20 heat-exchange circuit (122), the valve being connected to the heat-exchange module and to the high-temperature cooling circuit (120) and to the low-temperature cooling circuit (122) in such a way as to integrate the assignable heat-exchange area either with the high-
25 temperature circuit (120) or with the low-temperature circuit (122), according to an operating parameter of the motor vehicle internal combustion engine (121).